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EXAMINER

BROCKMAN, ANGEL T

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte SENTHIL-KUMAR ANANDA GANESAN, VASAVI SAGI, and
ANURADHA ANANTHA PADMANABHA

Appeal 2016-002159
Application 13/384,739¹
Technology Center 2400

Before ROBERT E. NAPPI, CARL L. SILVERMAN, and SCOTT E.
BAIN, *Administrative Patent Judges*.

BAIN, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's
Final Rejection of claims 1–4, 7, 8, 10, 11, and 14–20. We have jurisdiction
under 35 U.S.C. § 6(b).

We affirm-in-part.

¹ Appellants identify Hewlett-Packard Development Company, LP and
Hewlett-Packard Company as the real parties in interest. App. Br. 2.

STATEMENT OF THE CASE

The claimed invention relates to improving storage automation and reliability, by creating redundancies in the logical connections between a host and its storage logical units. Spec. ¶¶ 2, 12. With such redundancies, the failure of one logical link is less likely to completely sever the logical unit from the host. *Id.* Claims 1, 8, and 11 are independent. Claim 1 is illustrative of the invention and the subject matter of the appeal, and reads as follows (with the disputed limitations in italics):

1. A method for creating redundant logical connections, comprising:

providing a physical connection topology and a logical connection topology between a host and a logical unit hosted on a storage array, said physical connection topology and said logical connection topology comprising all network fabrics to which both said host and said storage array belong;

determining at least one single point of failure is located between said host and said logical unit within a particular network fabric;

attempting to create a fully redundant logical connection between said host and said logical unit within said particular network fabric;

if a fully redundant logical connection is not possible in said particular network fabric, attempting to create a fully redundant logical connection between said host and said logical unit using an alternate of said network fabrics; and

if a fully redundant logical connection is not possible in any alternate network fabric in said topologies, attempting to create a partially redundant logical connection between said host and said logical unit within said particular network fabric.

App. Br. 20 (Claims App.).

THE REJECTIONS ON APPEAL

Claims 8 and 16–18 stand rejected under pre-AIA 35 U.S.C. § 102(b) as anticipated by Thrasher et al. (US 7,275,103 B1; Sept. 25, 2007) (“Thrasher”). Final Act. 3–4.

Claims 1–4, 7, 10, 11, 14, 15, 19, and 20 stand rejected under pre-AIA 35 U.S.C. § 103(a) as unpatentable over Thrasher and Desai et al. (US 7,801,859 B1; Sept. 21, 2010) (“Desai”). Final Act. 4–10.²

ANALYSIS

We have reviewed the Examiner’s rejections in light of Appellants’ arguments presented in this appeal. Arguments which Appellants could have made but did not make in the Briefs are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(iv). On the record before us, we are persuaded the Examiner erred in rejecting claims 11, 14, and 15. As to the remaining claims on appeal, we are not persuaded the Examiner erred, and we adopt as our own the findings and reasons set forth in the rejections from which the appeal is taken and in the Examiner’s Answer. We provide the following for highlighting and emphasis.

35 U.S.C. § 102(b) Rejection

Appellants argue the Examiner erred in finding Thrasher discloses “discovery of a single point of failure in said at least one logical

² The Examiner withdrew the rejection of claims 5, 6, 9, 12, and 13 in the Answer. Ans. 2. Those claims remain objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. *Id.*

connection,” as recited in independent claim 8. App. Br. 10–14; Reply Br. 4–10. Although Appellants concede Thrasher discloses “look[ing] for a better, alternative path” between a host and logical unit, Appellants contend a problem “path” is not a “single point of failure.” App. Br. 7–8. Appellants’ argument, however, does not persuade us of error.

Thrasher discloses an “automatic” identification of a path that falls below a “quality of service threshold,” which, as the Examiner finds, one of ordinary skill would understand could include a disconnection between host and logical unit. Thrasher col. 5, ll. 13–20, 40–42; Ans. 3–4. According to the disclosure of Thrasher, when such a “problem path” is identified, it may be replaced by creating a “redundant path.” Thrasher col. 5, ll. 9–20. Appellants attempt to distinguish the “paths” in Thrasher from a “single point of failure,” Reply 8, but as the Examiner finds, one of ordinary skill would understand that if a logical path has failed (dropped below a specified service level), then it has been discovered that there is at least one single point of failure along that path. Ans. 3. To the extent Appellants imply Thrasher does not identify precisely *where* the single point of failure is, along the path, claim 8 (unlike claim 11 as discussed below) does not recite that requirement.

Appellants do not argue claims 16–18 (which depend from claim 8) separately. Accordingly, we sustain the rejection of claims 8 and 16–18 under pre-AIA 35 U.S.C. § 102(b) as anticipated by Thrasher.

35 U.S.C. § 103(a) Rejection

Regarding independent claim 1, Appellants argue the Examiner erred in finding Thrasher teaches “determining at least one single point of failure.”

App. Br. 16–18. We are not persuaded by this argument, for the same reasons discussed above in the context of claim 8.

Appellants further argue the Examiner erred in rejecting claim 1 because, according to Appellants, neither Thrasher nor Desai teach “if a fully redundant logical connection is not possible in said particular network fabric, attempting to create a fully redundant logical connection . . . using an alternate of said network fabrics.” App. Br. 18–19; Reply Br. 13–14. In the Answer, however, the Examiner construes this limitation as having no patentable weight, because the “term ‘if’ implies the subject matter which follows is optional.” Ans. 4. We agree with the Examiner’s construction. *See Ex parte Schulhauser*, Appeal 2013-007847, slip op. 6–10 (PTAB April 28, 2016) (precedential) (A “conditional limitation in a method claim [is] afford[ed] . . . no patentable weight.”). Accordingly, we do not reach Appellants’ arguments regarding the teachings of Thrasher or Desai related to this limitation (as well as the final claim limitation, which is also conditional).

Appellants do not argue the claims depending from claim 1 separately. For the foregoing reasons, we sustain the rejection of claim 1 and its dependent claims 2–4, 7, 19, and 20 under pre-AIA 35 U.S.C. § 103(a) as unpatentable over Thrasher and Desai.

Regarding independent claim 11 (and its dependent claims), however, we are persuaded by Appellants’ argument the Examiner erred. Claim 11, unlike independent claims 1 and 8, recites “determining *where* a single point of failure is *located* between a host and a logical unit.” App. Br. 28 (Claims App.). The Examiner does not address this distinction in the Answer (and does not address claim 11 separately), and we discern no finding in the

record regarding where the prior art teaches this limitation. In the Final Office Action, the Examiner cites Thrasher Figure 3A as teaching this limitation, but Figure 3A is merely a high level block diagram illustrating *paths* between a host and logical unit and does not suggest “where” a *single point of failure* may be “located.” Final Act. 8.

Accordingly, we do not sustain the rejection of claim 11 and its dependent claims 14 and 15 under pre-AIA 35 U.S.C. § 103(a) as unpatentable over Thrasher and Desai.

DECISION

We AFFIRM the Examiner’s rejections of claims 1–4, 7, 8, 10, and 16–20.

We REVERSE the Examiner’s rejections of claims 11, 14 and 15.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1). *See* 37 C.F.R. § 41.50(f).

AFFIRMED-IN-PART